

Notice of Allowability

Application No.

09/497,515

Examiner

Julian Mercado

Applicant(s)

HITOMI, SHUJI

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2-28-06.
2. ☒ The allowed claim(s) is/are 34-67.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 2-28-06
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Remarks

This Office action is responsive to applicant's amendment filed February 28, 2006.

Claims 34-67 are pending.

Claim Rejections - 35 USC § 102 and 103

Claims 1, 3, 6, 10, 21-25 and 29-33 have been canceled. To the extent that the prior rejection under 35 U.S.C. 102(b) or 35 U.S.C. 103(a) based on Fukuoka et al. (U.S. Pat. 5,723,173) and under 35 U.S.C. 102(b) based on Cabasso et al. (U.S. Pat. 5,783,325) may be applicable towards the new claims, new claims 34-67 overcome the prior art of record for the following reasons.

The prior rejection based on Fukuoka et al. relied upon a polymer residing in pores defined by the interspacing between catalyst particles [3] of the catalyst layer. The gas channels [7] were deemed readable on the claimed pores of the polymer itself, however, as these pores are co-extensive with the pores of the catalyst layer, Fukuoka et al. does not teach or suggest first and second pores in the catalyst layer and polymer, respectively, whereby it is understood that the first and second pores are mutually distinct such as shown in Figure 4 of the present invention.

Cabasso et al. is withdrawn as a basis for rejection of the new claims for similar reasons. While applicant is noted to submit that Cabasso et al. does not disclose the presence of the polymer in pores of the catalyst layer (emphasis as submitted), the examiner notes that the

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catalyst layer which contains a fluorocarbon polymer is indeed porous, in that the gas diffusion layer has a *higher porosity* and wherein the final structure has an *asymmetric pathway distribution* in the direction of gas flow such that the at the surface of the electrode (which is where the catalyst layer resides) the matrix is progressively denser and its *pores are smaller*. (emphasis added) See col. 6 line 54-58 and col. 8 line 54 to col. 9 line 7. However, much like in Fukuoka et al., Cabasso et al. does not teach or suggest the porosity of the catalyst layer such that the catalyst layer has first pores and the polymer exists in a portion of the first pores and itself has numerous second pores.

Allowable Subject Matter

In view of the foregoing discussion of the closest prior art, claims 34-67 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

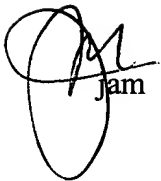
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER